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Thesis

TACTICS

Submitted by

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THESIS

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SUBMITTED BY

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NAVAL WAR COLLEGE
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"OUR FATHERS"

Though the seaplane, soaring upward, may betray the submarine
To the oil fed super-dreadnaught, steaming nervously between,
In pursuance of her mission, she'll be well advised to shun
Any interfering cruiser with the newest seaplane gun.

Thus does science rule the reveals that our Fathers used to know,
While the sea, that held our Fathers, marks the fashions come
and go
Humors each, but sometime wonders if the truth were better
sought
In the latest word of science, or the deeds our Fathers wrought.

Quaint and crude our Fathers methods, and their ships and
guns the same;
Watch them "warping out of Plymouth" when the Great Armada
came;
Hear them "give the Duke defiance" all their shot and powder
spent,
Men in truth, but manning makeshifts - still the Duke Medina
went.

Went in shame and hopeless ruin, with fear alone in mind,
Of our Fathers, spent and weary, hanging grimly on behind,
Scant of food, in rags and tatters "What you have will have to do"
Lacking everything they needed, but the heart that pulled them
through.

So they fought, explored, discovered, so they sailed from day to
day,
When the lizard dipped behind them there was none might bid them
stay,
With Marconi yet unheard of none to call, or heed their prayers,
They had none of our good fortune, we also! have none of theirs.

Uncontrolled by standing orders, well they prospered, none the
less;
They applied for no instructions; they reported no address.
And the building of the Empire was retarded not a whit
For its builders very seldom "Had the honor to submit."

But in truth our simple Fathers were unlearned kind of men,
And their strokes, although courageous, were unsuited to the gun;
So they chose the weaker weapon for their most successful hits,
Till the keenness of its temper was reflected in their wits.

Far away the friendly Dock Yard that their offspring now expect
Kindly barnacles protested one enormous "Pink" defect
Till in some secluded corner of the hostile Spanish main
They had beached, and scraped, and caulked her, and were off
to sea again.

On the anvil of their duty, Hookins, Frohisher and Drake
Forged traditions of the service for the use of Robert Blake
Who adopted them in toto with the silence of his breed
And bequeathed to his successors, fully proved and guaranteed.

Now there may be "too much Salson" for the times have changed
since then
But as long as man is human, we shall have to count on men
Though machines be ne'er so perfect, there may come a day per-
haps,
When you find out just how helpless is a heap of metal scraps.

So the man, machinely treated, and whose hopes are past aground
 In the "Proper Service Channels" where the broken hearts are
 drowned.
 Where he's strained will fracture badly, and be crippled, mind
 and limb
 You may try to join the pieces, but you'll get no help from Him.

In an age of swift invention it is frequently believed
 That the pressure of a button is as good as work achieved.
 But the optimist inventor should remember, if he can,
 Though the instrument be perfect, there are limits to a man.

Wherefore when we've raised the seagulls, men submerged across
 the Bay
 When we've tapped a conversation fifteen hundred miles away
 When the gyros spin superbly, when we've done away with coals
 And the tanks are full of fuel, and the targets full of holes.

When the margin's full of safety, when the weakest in the fleet
 Is a Higher Super-Dreadnaught, when the squadrons are complete
 Let us pause awhile and ponder, in the light of days gone by
 With their strange old ships and weapons, what our Fathers
 did and WHY.

Then, if still we dare to argue that we're just as good as they,
 We can seek the God of Battles on our knees, and humbly pray
 That the work we leave behind us, when our earthly race is run
 May be half as well completed as our Fathers' work was done.

A British Naval Officer.

"The fate of a battle is the result of a moment - of a thought.

The hostile forces advance with various combinations, ----
the critical moment arrives - a mental flash decides"

Napoleon.

"The greatness of a leader lies not so much in the strength at his command as in the right use of that strength."

GENERAL

Research, and practice in the field of Naval Tactics can but reveal the basic simplicity of the art, and its fundamental similarity to all other arts or "games" of coordinated human effort. True, its detailed character is indeed complicated, perhaps more so than any other enterprise with which it can be compared. The foundations upon which its successful practice rest are surprisingly similar to those underlying Strategy. Perhaps the only marked distinction between Strategy and Tactics which will bear substantiation is that, if anything, the "Time element" is even more important in the latter. Strategy may be said to set the stage for the production of the play; Tactics being the actual action of the drama. The borderland between the two is all too indefinite. The point of sight contact is not ^a/satisfactory dividing line. For example, in the Battle of Jutland sight contact by all forces engaged was never established, simultaneously, and those forces which did actually sight the enemy were constantly losing contact owing to smoke and general visibility conditions. It therefore seems futile to attempt any fine line of distinction. It is sufficient to accept the general and broad definition that Tactics at least implies physical contact - actual battle - while Strategy does not, but is the art of preparing the field and disposing the forces and their equipment in preparation for and prior to battle.

As the mission of both, resolved to its simplest character, is naught else than seeking to create an advantage over the other contestant, and of course of actually using the advantage in order to be successful, it goes without saying that "Time" is all important. By the nature of the problem, in Strategy, while "Time" is of vital importance, it nevertheless deals with greater limits, being a question of months or weeks, if not years of peace preparation. Even when the elements are reduced to days, it is evident that the directing mind is given opportunity for deliberation, and chance of utilizing, through efficient

organization, the combined output of all brains available and participating. One is almost tempted to say that the dividing line between Strategy and Tactics occurs when the units of Time are reduced from days to hours or less. The problem of making the composite brain of the organization function then increases at a very rapid rate. The individual brain of the leader is rapidly and even completely isolated from all the combined experience and judgment of the other brains of his organization. The inadequacy, the difficulty, of communication, other than oral, needs no discussion, even to a layman. Consultation, let alone conveyance of one's thoughts through the medium of written telegraphic or visual communication, is so difficult and inadequate that it is to be expected that one of the most vital of fundamental tactical principles stressed by every authority with complete unanimity, is that of indoctrination, or previous mutual understanding, to an end of insuring the maximum of coordinated action with a minimum of detailed direction and inter communication.

While Strategy, therefore, as set forth in the previous Thesis, is in final analysis, a game of the mobilization of brain power, of creating and insuring the functioning of a composite brain, made up of all available brain power of any given military organization, Tactics on the other hand, narrows down when the critical hour arrives, to the functioning of a single brain. True, success can easily be marred by failures on the part of the other brains participating, who must carry out the will of the leader, and hence previous training and preparation may, thru inefficiency, cause defeat, no matter how sound and wise the decisions and directions of the supreme directing mind. In other words, an action may easily be lost by the failure of integral and subordinate parts of the composite brain, but it is certain that the opposite will not obtain, and victory be possible, unless the directing mind correctly meets the situation presented. The directing mind may bring about victory by itself, but the subordinate minds never, except in such un-

usual and exceptional cases as not to merit any consideration whatever by a student.

Almost every military action of history can be cited in support of this important, if simple, doctrine, namely, that the principal art of the Strategist lies in the mobilization of brain power, the creation and functioning of a composite mind directed and controlled by the leader, while the major mission of the Tactician must be the training and preparation of his own individual mind, against the culminating point of his career.

When that moment arrives, he will inevitably stand alone, confronted with an estimate of a situation and momentous decision very probably with insufficient time to even consult his immediate staff. The action will of course require prolonged brain functioning, but if the Tactician wishes to insure success he must reckon that his initial quick decision may, and very probably will, decide the ultimate outcome of the issue presented.

Herein, lies the principal distinction between tactics in the field and on the sea. In the former, the movements of troops, and the general character of the material problem increase the time units available for the functioning of the directing mind.

The factor of mobility is so much greater at sea than on land that the time to repair blunders or revise plans is limited for the Naval Tactician to minutes instead of the hours or days available to the Army Tactician.

We will later examine three naval tactical actions, selected at random, to illustrate the above peculiarity of Tactics. The Battle of the Falklands illustrating the suddenness with which a Tactician can be confronted on the sea with a situation, and the far reaching effect of his necessarily quick initial decision - the fact that when the supreme moment of his career arrives he must be prepared to encompass his entire experience and brain preparation in a matter of minutes, and without the advantage of utilizing any other brain power than his own. The Battle of Jutland, illustrating the isolation

on the eve of battle of the supreme directing brain, and the consequences of faulty previous preparation and training of his own mind as well as the composite mind of the organization under his command. And lastly, the Tacticians classical Battle of Trafalgar demonstrating the results which are almost certain to follow when the directing brain has so prepared itself, and the composite brain power at its disposal, as to insure their efficient functioning in spite of the apparently insuperable obstacles of physical separation and impossibility of mature deliberation and consultation.

Before examining these three battles, it is well to discuss briefly the principal elements of the Tactician problem.

As stated in the opening sentences above, and paradoxical as it may seem, the problem though of extreme complication as regards details, is nevertheless of marked simplicity in its basic elements.

The fundamental requirements of successful action might be briefly covered as follows:

(1) As thorough a mastery as possible of the lessons of experience - of history.

(2) A thorough understanding on the part of the Tactician of the tools at his disposal and at the disposal of the enemy - their capabilities and limitations. What elements of time and space are involved in their movements? In order to change front, to alter direction of movement and at the same time keep the maximum number of guns in action, how much time is required and how much space must be necessarily covered to the front, rear, or either flank? What is the effective range of the guns, and what are the best conditions under which their fire can be controlled and their projectiles delivered against enemy ships? What are the principal weaknesses and strength of his own resisting power as well as that of the enemy?

(3) A previously accomplished degree of training of the forces under his command which will insure the highest degree of skill in their functioning, under stress of battle.

(4) An information service of such degree of efficiency and rapidity of functioning as to insure the directing mind of essential information, which can in any way affect his decisions and corresponding actions.

(5) An organization, reaching as far down thru the Fleet as may be necessary, and not necessarily confined to the Flagship, which will insure the transmission not only of the information above mentioned, but what is equally important, the prompt transmission of his directions thereby insuring efficient operation of the machine as a whole which he is attempting to use as a unit.

(6) As previously worked out and mutually understood doc-

trine which will insure the maximum of coordinated effort -- of team work - with a minimum of intercommunication.

(7) Most important of all, a degree of training of his own mind, that will insure him its rapid functioning, - insure the most comprehensive of estimates of the situation with attending decisions, - in the briefest possible space of time.

It is difficult indeed to say which, of the above brief statements of fundamental requirements are the most important. They are probably equally important. Certainly success - victory - will be endangered by neglect of any of them.

It is possible, in the light of history, to point out which of them are most frequently neglected, owing to the peculiarities of human nature.

Without any attempt at explanation, it is nevertheless true, that the first three stated are seldom neglected and in fact are, as a rule, considered in times of peace as the summation of the tactical art, while the other four are proverbially neglected.

To a layman, and even to a naval officer such a statement is difficult to believe when made by itself without reference to actualities.

For example, in spite of the example of Nelson and the lesson of Trafalgar, his own second in command, Collingwood, the best perhaps of his subordinates, notwithstanding his educational and indoctrinal experience of many years standing, promptly following Nelson's death, reverted to old forms, fetishes, and conventions quite the opposite in character. In fact this fundamental requirement of a successful tactician so successfully used and demonstrated by Nelson, actually expired with him, and we find a greater British Armada appearing on the field of Jutland with no doctrine worthy of the name and an information service so woefully deficient as to be almost incomprehensible in retrospect.

Our own fleet, we are proud to say was better in these respects, but its efforts in such directions are of such recent origin as to be still practically in their infancy.

FUNDAMENTAL PRINCIPLES.

The student is impressed by all authorities, with the importance of the mastery of "Fundamental Principles". This subject is stressed to a point that is liable to render it a fetish. Its disciples would lead one to believe that the entire art of the Tactician is dependent upon his religious devotion to and knowledge of, the "gospel" of "fundamental principles."

The phrase "Fundamental Principle" as applied to the art of military tactics is as dangerous as it is important. It is comparatively easy to enunciate or cite safe principles, which, if they can put into practice on the field of battle, are certain to be advantageous, if not actually decisive. The "inevitable" "if" however, almost invariably enters the problem. Wind, sun, smoke, disposition of forces, time, and many other elements of the problem render the principle, no matter how clearly it is recognized as applying, as difficult, and all too often impossible of application.

Granting the most comprehensive knowledge on the part of the Tactician of his art and all that is embodied, he must indeed be wary of allowing what may appear to be a safe and fundamental principle from becoming so fixed in his mind as to actually lead him to disaster. So called "details", the mechanical elements of the problem, cannot be overlooked, regardless of the fact that they must, in stress of battle, occupy a secondary position. Be one who has experience on the Tactical Game Board but has seen situations in which a Commander has been above criticism in so far as his intentions being in accordance with sound principles have gone, but who nevertheless has failed in his objective simply due to insufficient attention to such a detail as the mechanics of best changing from one formation to another, or other so called "details" as distinguished from so called "tactical principles". For example, in a recent game at the War College, a Commander in his desire to bring his maximum force to bear on a retreating inferior force in coor-

dance with an accepted sound principle drove down straight on the nearest route to the best position for opening the engagement. In the process of changing his initial formation and conducting his force to the selected point, in accordance with sound principle, his line of battle was necessarily but temporarily other than normal to the enemy bearing, with the result that the enemy was able to concentrate on one end and gain a marked initial advantage.

It is true that keeping one's line of bearing normal to the enemy bearing is itself cited as a principle. In the case in point, however, it was essential to temporarily disregard this principle if the major objective was to be carried out, and maximum concentration brought to bear before the enemy could retreat sufficiently to effect a juncture with his own reinforcements.

As has been discussed in our analysis of strategy, war is unfortunately so variable a game that we might almost say it seldom presents situations in which any single abstract principle can be applied in toto and rigidly pursued no matter how obvious its desirability or application to the circumstances may appear.

We are constantly led back to the fundamental guiding rule of Captain Little that "Principles apply when they apply", and to the conviction that the prime art of the tactician, assuming that he is a tactician in the most expert sense of the word, lies primarily in his sagacity in the application of principles and his expertness in knowing when to disregard them.

It is beyond dispute, that the first requisite of successful tactics is a thorough knowledge of principles on the part of the tactician. The basic fundamental principle of all tactics ashore or afloat is unquestionably that of concentration of a superior force on an inferior one at a critical time and place. As the ignorant Confederate leader Forrest expressed it, - "Gettin' the mostest there firstest". Expressed

in still another way, it is the attempt to bring all one's own force to bear simultaneously, or as nearly so as possible, on a part of the enemy's force.

This principle can safely be called fundamental and of general application no matter how impossible or difficult its application to any combination of local circumstances may appear.

Any attempt to go further in annunciation of specific principles which may safely be taken as fundamental and of general application, is, however, precarious.

The accepted definition of the word "principle" is, according to the best authorities, -

- (a) "A source or cause from which a thing proceeds; a power that acts continuously or uniformly; a permanent or fundamental cause that naturally or necessarily produces certain results".
- (b) "A general truth or proposition".
- (c) "That which is held as vital or essential".
- (d) "A settled law or rule of action".

It is seen that all definitions imply general application.

Let us briefly review a few of the lengthy array of tenets which are generally set forth as "tactical principles".

Prior to Nelson's advent many principles had been recognized and given expression, although seldom practiced. They seemed to fail of general acceptance, or at least, their application if and when attempted was accompanied by such rigid adherence to senseless and antiquated forms and conventions as to obscure the principle itself.

Nelson seems to have been the first to break away from form and to clearly attempt the enunciation of a set of so called principles as definite guides for action. At the same time he unmistakably preached the doctrine that empirical rules were to be followed and applied only when clearly applicable.

His major object seems to have been, and herein lies his principal contribution to tactical posterity, to formulate

plans of a general application as possible and to indoctrinate his subordinates in them with the sole and primary motive of causing the weapons under his command to function automatically with the maximum degree of coordination - of team work.

By doing so, his aim was to insure advantage being taken of all opportunities presented which could not be foreseen. In homelier expression, his claim to greatness was a simple one, recognized, but little practiced, in every activity of life, namely, that any organization dependent in action on the detailed direction of the leader is bound to collapse and end in confusion. That the art of the Tactician is in the absolute antitheses of that of the chess player.

This subject is stressed because the student is prone to be misled as to the "Nelson's touch" and to blindly accept his specific statements of plans or principles as a complete exposition of his genius, which all naturally desire to emulate.

It is well to know these principles as long as we constantly bear in mind that they were but a means to an end and that it is the "end" which is all important.

The so called tactical principles ascribed to Nelson may be briefly stated as follows:

- (1) Principle objective - annihilation of enemy's main force - partial results insufficient.
- (2) Simplicity of method.
- (3) Necessity for a broad plan on the part of the Commander, and of imparting the plan to the principal subordinates.
- (4) Sole business of the Commander to bring the enemy to action on the most advantageous terms possible to himself.
- (5) Concentration of superior force against enemy fractions.
- (6) A close and decisive action always to be sought.
- (7) Avoid necessity for intercommunication once battle has been joined. Obviate such necessity by previous training, indoctrination, and insurance of mutual understanding between Commander and his principal subordinates.

- (8) Time is everything. Five minutes may make the difference between victory and defeat.
- (9) Maximum discretion allowed subordinates. Division of Fleets into squadrons or other units permitting unit commanders, to use their discretion and take full advantage of local and unforeseen circumstances.
- (10) Be governed by study of moral qualities of the enemy.
- (11) Victory must be followed up.
- (12) "Something must be left to chance". "No Captain can go far wrong who places his ship alongside the enemy".

Manifestly few of these principles are of general application. The fog of war, and inevitable perverseness of the elements and the "fates", all too frequently prevent their application no matter how sound they may appear to be. For example, the last mentioned may easily prove detrimental and disastrous. Imagine a situation in which a ship or division is confronted with an excellent opportunity of closing in and engaging a portion of the enemy line, but at the cost of confusion to its own force, or failing thereby in carrying out its assigned part of the general plan, with the result of conveying an erroneous impression to nearby forces as to what is transpiring.

An isolated case, perhaps hardly comparable to the point under discussion, but nevertheless illustrating the danger of "blind" application of so called principles of acknowledged masters, leading to disaster and no useful end is seen in the attack by a German cruiser on a Norwegian convoy during the late war. Two or three British destroyers were suddenly confronted with a fast and well armed light cruiser, superior in speed owing to the sea and hence of superior armament. The destroyer in a very brave and gallant manner applied the 12th Melschick principle (above mentioned) literally, and laid their ships alongside of the enemy, well knowing the result -- not only their own annihilation but also that of their charge, the convoy.

An American officer sometime afterwards in conversation with a British flag officer of great experience and recognised

ability pointed out that the destroyers could not under any circumstances have saved the convoy but that at least one of them by avoiding action should have been able to track and give information, which would have insured his own heavy forces intercepting the enemy cruisers. The British officer replied by quoting the traditional Helsonian principle and stating that any British officer who met enemy under any circumstances, and failed to attack, should be court-martialed and disgraced.

The British destroyers, without exception on the night after Jutland, attacked whatever they saw and gave no heed to the importance of tracking the enemy with a view of a coordinated attack by the entire force.

The Commander-in-Chief himself, in his published statements commands them, and at no time seems to have appreciated the inexcusable loss of perhaps the most golden opportunity that will ever be offered of annihilation of the enemy by directed and coordinated night search and attack of torpedo craft. The writer had the opportunity of discussing the situation with the Commander of all torpedo craft of the British Grand Fleet on that occasion, and was astounded to find that such a thing as coordinated attack was unknown in the British torpedo service.

The above brief discussion of principles hardly scratched the surface of the subject:

Amongst many others, which certainly partake of the nature of principles, may be cited the following:

- (a) The coordination of separated forces, whether in positions of so called tactical concentration or not, are very difficult and should be attempted with great caution.
- (b) It is a fairly safe rule to keep one's forces concentrated, and to delay their individual engagement until all can be brought to bear as near simultaneously as possible.
- (c) Aim to support the point of major contact, or the point selected for major contact.
- (d) Avoid detached engagements, unless they palpably further the general plan.
- (e) Remember that owing to the fact that actual discharge of torpedoes can seldom be seen, the mere threat of their use can often be utilized as effectively as their actual firing, thereby reserving them for a more critical moment later. The best moment for their actual use is that

chosen by the Commander-in-Chief for general and simultaneous attack.

- (f) Smoke screens must be used with the greatest of caution and require most thorough mastery in their manipulation. Otherwise they are as apt to be beneficial to enemy as to self.
- (g) Fast wings should as a rule avoid action until main body engaged.
- (h) Use individual initiative without signal, where and when it will manifestly (1) further the general plan (2) take advantage of the unforeseen opportunity in the furtherance of the general plan, and (3) where necessary to escape from a disadvantage.
- (i) Be partial - be predisposed - to the selection of an offensive mission; regardless of circumstances. The best defensive is a vigorous offensive - a principle as applicable to dog fights and street brawls as to naval tactics.
- (j) Aim to seize and hold the initiative, throw the enemy on the defensive, keep him guessing, confuse his plans.

BATTLE OF THE FALKLANDS.

It is proposed to examine the Battle of the Falklands merely in the light of the suddenness with which a tactician under actual conditions can be confronted with an estimate of a situation and attending decision. The fact that no matter how well versed he may be in the principles or even practice of his art, when the moment of actually putting to the test arrives, it is quick application rather than knowledge and skill which decides the issue.

The German force is acknowledged to have been superior in gunnery skill to any other organization in their service. It is further true that their skill was not limited to mere expert individual ship gunpointing. Both at Coronel and at the Falklands they displayed unmistakable evidence of understanding, and being expert at, coordinated fire control, or, in other words skilled central subject to the will of a central directing mind - the commander of the combined force. They understood the difficult art of team work. For a comparatively long period they had been cruising together in good weather, under the direction of an efficient commander, who, regardless of his superiority of force at Coronel, had nevertheless allowed no opportunity to escape him.

It is so frequently and unjustly the case that a victory is depreciated in the minds of reviewers as well as general opinion because of a marked difference of initial available forces. History affords as many examples of failures to correctly estimate a sudden situation and to take full advantage of opportunities offered, that we should be slow in our appraisals and avoid unjust prejudices.

Suffice it to say that here was a squadron, with excellent morale, practically a complete victory to their credit within a month, and with justified confidence in their ability to efficiently handle the weapons entrusted to them. They had reason to believe that their enemy possessed no force in a position to meet them which possessed a superiority of either speed or power. With the single exception of the guns of one slow pre-dreadnaught battleship their 8.2 shells were of nearly equal weight to the British 9.2 the heaviest the latter possessed in those waters. German rapidity of fire should have been and was considerably greater.

This fact that the British might have sent out heavier and more powerful ships in such a short time seems not to have been considered at all by the German Admiral.

It now appears as a rather remarkable coincidence that Von Spee should have chosen the exact place and almost the exact time of arrival of such reinforcements for his next enterprise following his victory off Coronel. Evidently his confidence in his own condition for battle and the excellence of his situation remote from the source of enemy reinforcements, let him into the very grave error of omitting any reconnaissance of his newly selected field for conquest.

We find him therefore on the morning of December 8th arriving off the Falkland Islands and being confronted with the presence of two British Cruisers, the Invincible and Inflexible, which between them could present a dozen 12 inch guns on any bearing, and on certain bearings, four more. Of equal import was the fact that these formidable opponents had superior speed under any conditions

of weather, and therefore would be able to maintain the range within reach of their guns, but outside the effective range of the lesser German calibres.

With a full period of daylight ahead, a quick estimate would indicate that Von Spee's fate was sealed and that defeat or surrender before sundown was inevitable. If he adopted the decision which impulse would dictate, that of flight or retreat, it would seem self evident that his only hope of escaping disaster lay in the very doubtful chance of grave enemy errors or lack of enemy efficiency.

He did adopt flight and almost complete defeat was the result.

Setting aside his initial error, caused probably by over confidence, namely failing to secure information of a situation in time to make use of it, let us examine the actual situation which confronted him, once both forces were in contact and aware of each others presence and strength.

Unequal battle was inevitable. From a standpoint of protection, both sides were initially on an equality, as the British Battle Cruisers had no protection invulnerable to Von Spee's guns, providing he could keep within their range. The British major force was under a tremendous initial handicap, that of being in an enclosed harbor, which restricted quite definitely their initial movements. The fact that they had colliers alongside and were coaling, with all that such a condition implies to a man-o-warman, and that the majority of their officers in true traditional British fashion were in civilian clothes, preparing for a shooting expedition ashore, may well not have been realized by the German Admiral. That they were at anchor, divided between two harbors and channels, and that their machinery and boiler power was far from being prepared for instant full speed could not have escaped him. The mere process of getting up steam and anchors, and maneuvering to clear the harbor, presented an advantage of no small proportions to the German squadron with unlimited sea-room.

An examination of the charts would indicate a comparatively

easy German problem of selecting targets to the exclusion of others, of choosing range, and of getting in at least 15 minutes of effective fire, if not more, before the British ships could have replied at all. At close range under such circumstances, the inferiority of both guns and weight of broadside which could be thrown, might easily have been converted into a temporary superiority of power, particularly if the superior rate of fire of the German 8.8 guns over the British 18 inch is considered. A raking fire as the big ships emerged from the channel might well have eliminated one battle-cruiser, to say nothing of possible damage to both of them.

At the very worst, the German Admiral could have involved himself in no more severe sacrifice or penalty than he was doomed to accept before the day was over.

It is an open question whether or not, under the circumstances, the German Armored ⁱⁿ cruisers would not have been more than a match for the British Battle Cruisers or, at least, could not have so severely damaged them as to have made pursuit under superior terms ^{im}possible. Certainly an action of such a nature ~~she~~ would have given ample time for the German light cruisers to have made their escape and after escape, provided they succeeded in remaining together they would have had little to fear from any single cruiser sent in search of them. Even by scattering, their potential as well as actual menace to British trade was no small factor for consideration.

Just as Von Spee missed this real opportunity, so later he kept his light cruisers with him too long, and then accepted battle far too much on Admiral Sturdee's conditions, which were none too well conceived and executed in view of his tremendous advantages.

It is all too easy to criticize and review in the light of hindsight and altogether impossible to duplicate in one's mind the mental as well as the physical conditions which surround such fateful moments as the eve of battle.

The Battle of the Falklands nevertheless holds a new, a modern, repetition of the lesson of all tactical history in demon-

strating as it does the importance of the following principles:

- (1) The vital effect of the Time element.
 - (2) The fact that the supreme moment of any tacticians career may require an estimate of the situation on the spur of the moment.
 - (3) That errors of initial decisions may easily be irrevocable.
 - (4) That superior force does not necessarily mean victory.
- No matter how hopeless the relative comparisons of force may be, there are many other factors which may well be decisive.
- (5) That the possibilities involved in gaining an initial advantage are incalculable and may easily upset the most one sided of situations and convert inferiority into marked superiority.

It is perhaps too much to expect that any human mind confronted with the situation which confronted Admiral Von Spee would have chosen any other course than retreat. But we need not concern ourselves with his decision nor its consequences. A study of the battle will repay if it does nothing else than impress upon our minds the necessity of constant and ^{unending} training of the mind in making quick but equally comprehensive estimates of the situation and arriving at decisions which will insure us every advantage which opportunity and situation offers, no matter how meagre or hopeless they may appear to be.

THE BATTLE OF JUTLAND

The Battle of Jutland offers a fruitful field of study for the tactician and, particularly, the critic, in the light of ^{"h}blind-sight."

In no naval battle of history was anything approaching to such a military force engaged or, in fact issues of such moment involved.

It is proposed in this brief thesis to discuss but one or two general phases of the action in the light of the theme so far pursued.

The action occurred between two forces remarkably well known to each other who for the previous two years had been preparing for nothing else and further it was carried out in almost the exact location in which both sides knew it would occur.

On the day in question neither force happened to be actually seeking general action, or rather expecting more than a partial action. Neither force seemed to have had any idea when they left port that they were to meet the entire force of the opposing side. The German side unquestionably did not desire action and would have avoided it if they had realized the possibility of a general engagement. The British Fleet, no matter how unexpected on the particular day of the meeting proved to be, cannot disclaim, even to themselves, that the opportunity they had desired and sought for so many long months was finally and suddenly presented to them.

If they were unprepared there could be little excuse.

Considering the events of the day in a general way, the situation which occurred was approximately as follows:

BRITISH: - Entire fleet at sea with stated mission of a "sweep or search of the North Sea. The object of such sweep could be naught else than enemy forces.

Disposition - In two general divisions:

The Main Force of battleships, and attendant screens of light cruisers and destroyers separated

from a detached force of battlecruisers and fast battleships also attended by light screening forces. Judging from the uncertainty in the mind of the C in C of the position of his detached force, the British Fleet can hardly be said to have been tactically concentrated.

There is no evidence of a general plan mutually understood between the two separated commanders, other than a prearranged rendezvous selected without reference to the battle. Admiral Beatty commanding the detached force, made little effort to coordinate his movements with the Main Body when he first encountered the enemy. Had he failed to have met the enemy's Main Body, he would have continued his action with the Battle Cruisers without regard to his own main forces.

German: - Likewise in two divisions, almost identical in general character to the British except for the absence of any battleships with the detached force. The German Force, however, were unquestionably tactically concentrated and their movements were in accordance with a prearranged and mutually understood plan. The two forces ^{were} worked in conjunction with and support of each other from the first moment of contact.

Let us examine what happened from the personal viewpoint of the British Commander-in-Chief.

Standing in a general southerly direction, toward enemy waters and bases, he learns of the presence of two enemy cruisers, type unknown, but light cruiser type assumed, at 3:10 p.m. At 3:40 a full half hour later, he learns of the presence of enemy battlecruisers but is very uncertain as to their exact location. At this time his detached force had actually joined battle with the enemy battlecruisers, and within fifteen minutes after opening

Fire had suffered the loss of a capital ship. This loss was followed soon by another and it is a remarkable fact that C in C was not aware of such a serious depletion of his force for a full two days after the action.

At 4:38 a British light cruiser reported the presence of the enemy main battle fleet. While the Cinc devotes considerable space in his account to the fact that the position of the reporting vessel was very doubtful in his mind, he does not specifically state when the report reached him. He does state, however, that the report caused him no uneasiness as he considered that four fast battleships and six battle-cruisers could easily handle the situation, in view of the fact that the battleships, as he thought, had at least four knots excess speed over any of the enemy battleships and could, therefore, choose their range. Here, indeed, is a glaring example of the consequences of erroneous intelligence information, as it developed that the assumed excess speed did not exist and that the fast battleships were actually unable to open the range.

For the purpose of this general review of the action suffice it to say that, owing to the equally poor information service of the enemy, the latter allowed the action to proceed in the direction of the Main British Fleet exactly as the British could have desired it to proceed if they could have so willed. To come, therefore, to the actual factors entering into the estimate of the situation by the Commander-in-Chief in solving the problem which, according to Nelson, is the sole concern of a Commander-in-Chief, namely, bringing his force into action on the most advantageous terms to himself.

He well knew that his information was very inaccurate as to enemy location and disposition. As a matter of fact it developed when the fleets actually came in contact that a discrepancy of 12 miles or some 20,000 yards existed between his own best reckoning and that of his detached forces which had been his

only dependable source of information. His approach was conducted in line of four ship divisions, the leaders of the divisions bearing 90 degrees from each other. This was not a battle formation, and under the circumstances of visibility and uncertainty it is doubted if it was even a good approach formation in the sense in which that term is used in our own fleet. The great decision demanded from his estimate was therefore as to when to deploy into battle formation, so that all his guns would bear when the enemy was sighted. It is perhaps true that he was justified in delaying this deployment as much as safety would permit as the "approach" formation was more flexible to change than battle formation of single line ahead would have been. At the same time, no student of tactics, who has had any experience at all, even on the game board, but knows the consequences of having to deploy and maneuver once gun action has commenced. The tremendous importance of initial advantage cannot be overestimated.

In any case, the sole object of an approach formation as distinguished from a battle formation, is to afford greater flexibility in establishing the desired front. In other words the problem stated in its briefest terms which confronted the British C in C was to lay his frontal deployment in a line approximately at right angles to the bearing of the nearest portion of the enemy.

Admiral Jellicoe states that at a very late stage of his approach he still considered his information insufficient to justify changing the bearing of the division guides. In examining the accounts of the battle and the information which was available to the C in C during the approach, it is difficult to understand why this bearing was not brought nearer normal to more southerly bearing.

In spite of conflicting reports, it appears that all information pointed to south as the most likely enemy bearing.

All reports of gun firing and gun flashes were reported from "Ahead around to starboard beam", never to port.

At 5:55 the Commander of the extreme right division reported heavy gunfire on his starboard bow.

At 6 o'clock Beatty's flagship was sighted ahead on an easterly course, and after repeated inquiries as to the location of the enemy fleet, he reported them on a bearing south-south west from him.

At 6:07 the commander of the extreme right flank ship again reported ships bearing southwest from him.

Over 30 minutes earlier at 5:40 the British battlecruisers were sighted by the right end of the Grand Fleet light cruiser screen definitely firing the enemy bearing decidedly to right of the Fleet course.

These are but a few examples of the information which reached the Cinc. It is noteworthy that no information whatever is reported as indicating the presence of the enemy anywhere to port of the course. On the contrary all information indicated enemy bearings well to starboard of the course.

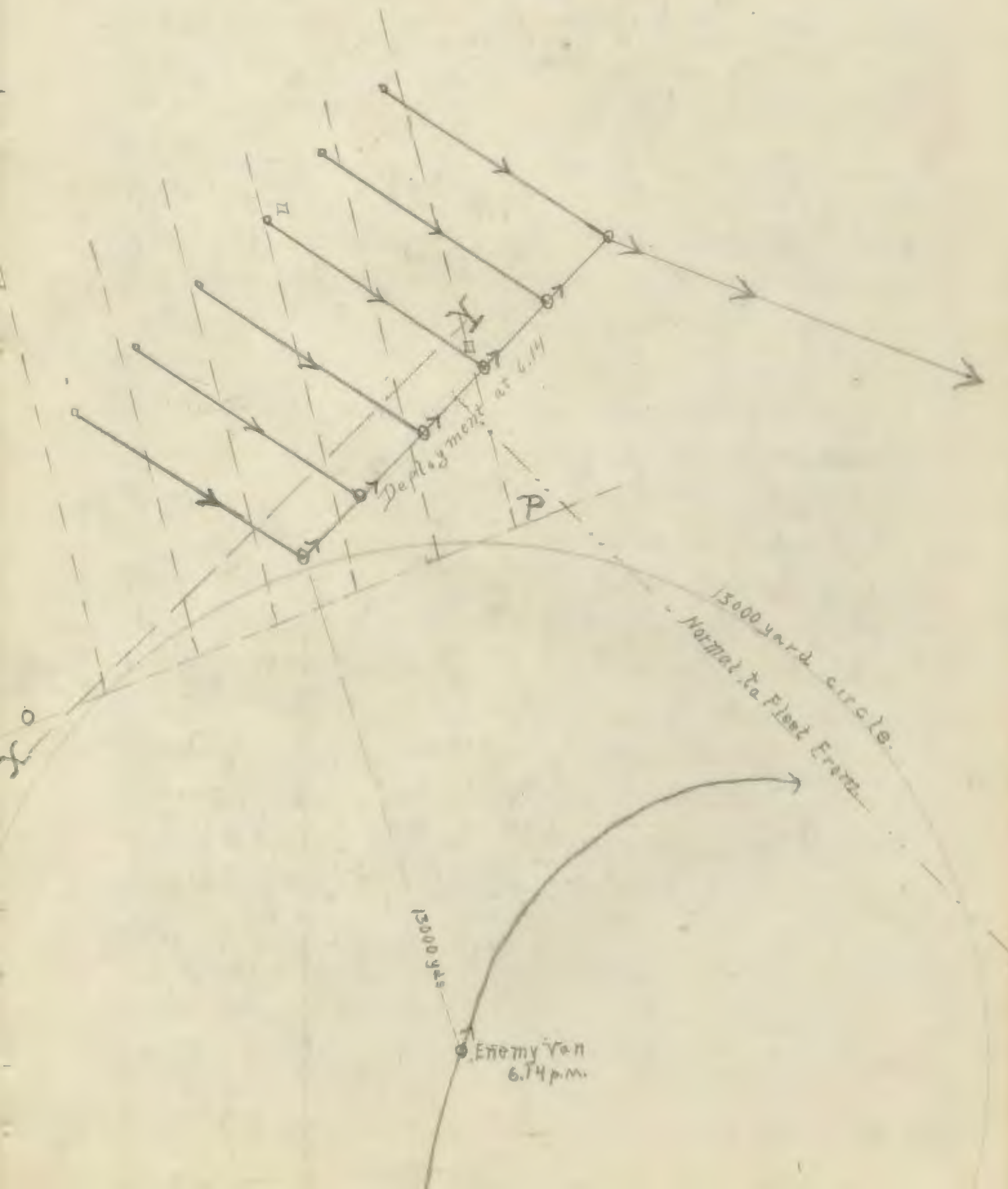
Although not information which would have justified a change of the line of bearing of the fleet still it is noted that, in obedience to directions of the Cinc, the staff investigated and informed him that visibility was better to the southward than in any other direction.

It is, therefore extremely difficult to understand why the decision was not reached before the time of deployment arrived, to swing the "front" more towards a southern presentation. Concern was felt and expressed of the danger of having the right wing come into action first and before the majority of the fleet could engage. Any change in the direction mentioned would have been advantageous. As it was, when the deployment could not be postponed a moment longer and the decision was taken to deploy on the left flank, we had a situation far from that which all tacticians recognized as being the best.

The situation was as shown in the sketch. The dotted line X Y shows the positions which might have been brought about by a more southerly course alone, as it may be justly argued that, considering the information, there was insufficient time to alter the line of bearing and swing the front to such a line as O P. Certainly, by slowing down the Fleet speed, some change of the fleet front could have been effected in the direction indicated. (O P). It should be observed that such a change would have avoided the right flank's first making contact, would have actually avoided contact, and, when made, the contact would have been nearer the center if (in fact) the entire line or a large portion of it had not made the contact together.

The perpendicular to the Fleet front is seen to be far from touching the enemy formation.

It is not the intention in this discussion to dwell upon what might have been done but, rather to examine the causes of what was done and to trace them, if possible to neglect of the principal tactical precepts discussed in previous pages.

BATTLE OF JUTLAND.Relative positions at time of British Deployment.Heavy solid lines - actual courses.

It would appear that if there is one outstanding lesson to be derived from the Battle of Jutland it is the stress which it laid upon the importance of information. It should not be assumed that the action was exceptional owing to unusual visibility conditions. With the advent of oil burning we have it in our power, if desired to approach a duplication of Jutland visibility even in localities noted for clear atmosphere. Artificial interference with visibility need not be restricted to destroyer smoke screens. In addition to smoke from other types of surface craft, the future may easily see airships and even submarines befogging the horizon with chemically produced vapors.

No step must be omitted towards improving position reporting. A tactician, no matter how skilled, is helpless without intelligence to guide him in the application of the principles which knowledge and experience has taught him are conducive to success.

In Jutland we find the CINC not to mention all other Commanders, extremely doubtful as to the relative location of their own forces. In spite of this deplorable fact, we find every information report as to location of enemy ships merely giving bearings from the reporter. Seldom a distance was given but even when given was of little more value, as long as the recipient of the news was ignorant of the reporter's position.

The first definite information received by the Fleet commander as to enemy main fleet location came in as late as 6:14 almost the exact time of deployment, followed a moment later by confirmation from the Barham. In each case no distance was given, but only a bearing from the reporter's position.

Again, at the critical moment of deployment, the 5th Battle Squadron approaching the right flank of its own main fleet naturally assumed the Fleet to be in "line ahead" instead of abeam, and thereby was forced into a false maneuver which

thanks to the elements, was at least partially screened from enemy view.

To revert again to the predicament of the Cinc striving to make such a momentous estimate of a situation, we find him stating that even after deployment he was in ignorance as to enemy battle line disposition. Admiral Jellicoe passes this point with the comment that it was "not of importance". Quite the contrary, it might easily have been of vital importance to him. For example, if, by chance, the enemy's weakest squadron had been in the van, he might have been justified in adopting quite different methods of deployment and willing to temporarily accept the handicap of a weak enemy squadron's fire while maneuvering for position.

To follow further into the action, we find the enemy at 7:15, screened from the British by smoke, turning eight points "away" at the very time that the British Fleet was also turned away to avoid a torpedo menace. Admiral Jellicoe states that he was not aware of this radical enemy movement until his return to port after the action, and then immediately quotes six separate reports (submitted in writing later) including one from his second in command to the effect that this radical and important enemy movement was observed and accurately estimated from as many positions in his own immediate force. One is forced to the conclusion that the importance of information to the Commander-in-Chief in making his initial decision and in his conduct of the battle was not very fully appreciated in the British Fleet. The word "Information" could not have occupied a very important or commanding position in the Fleet doctrine or battle orders.

Again at 7:40 Admiral Beatty supposedly immediately ahead, reports the enemy's distance and bearing and Admiral Jellicoe, acting upon the report orders his own van to follow Admiral Beatty whom it was to be assumed from the report, had the enemy in sight. At the time, neither Jellicoe nor his van seemed to

have any very definite idea as to where Beatty was, he having been operating ahead and on the bows of the fleet more or less independently and having for some time, unknown to Jellicoe, been out of sight of the van.

This is but added stress, if such is necessary, on the importance which even the game board places upon the difficulty of coordinating the movements of separated forces whether their position appears to be one of tactical concentration or not.

Generally surveying the tactics of Jutland, it appears that the Battle-cruisers justified their existence in the main battle line if for no other reason than that of their demonstrated ability to keep touch under poor visibility conditions with an enemy skillfully employing retiring tactics. They seemed to have kept reasonable contact throughout the action and, even during the brief intervals when they lost it, there would have been no trouble at all in their closing in sufficiently to have regained it.

It is not an unreasonable criticism to state that this fact should have formed an important part of any British battle plan. The visibility conditions were not unusual and, in fact were anticipated. We find, in the midst of the action, Admiral Jellicoe's Chief of Staff commenting to him to the effect that the affair was proceeding remarkably close to their anticipations.

It would have been of little avail to have used the Battle-cruisers for such a purpose if no provision had been made towards insuring the continuous flow of information of a character permitting of its use.

The student, in reflecting, finds it hard to escape the conviction that the British Commander in Chief was not ever zealous in his desire to follow Helmsman's doctrine and force the action or, at least, to close the action. At any rate, nothing approaching the Helmsmanian admonition as to laying oneself along side the enemy is evident.

Admiral Jellicoe, in his reflections on the battle, states that when the enemy fleet erroneously took his advanced and detached battlecruiser divisions under Admiral Beed for the Grand Fleet and turned away about 5:45 the opportunity presented itself to the British Fleet of placing itself between the enemy and its base. He adds that the opportunity was taken and the enemy thereby forced to pursue retiring tactics to the westward.

What is meant by "opportunity" in this case, in view of the Admiral's own tactics is difficult to understand. One of the greatest advantages the British Fleet was supposed to have over the enemy Fleet, as well as over all other Fleets was its traditions and if there is one British tradition which stands out above others it is the Delaunay doctrine, the principal tenants of which all embryonic tacticians are led to believe are those of laying oneself alongside the enemy and following up victory. Following up opportunity is equally important if victory is to be achieved.

In this first succeeding great fleet action following Trafalgar we find the world's greatest armada in a position which we are told tacticians dream of but seldom if ever encounter. A position of concentration practically across an enemy's course. The classical "Cap" or "T".

Again we find the same force at nightfall in a position for following up of day victory or action, so ideal that it is doubted if such a simple problem would ever be allotted for peace maneuvers.

As early in the night as 8:40 p.m. the enemy is last seen and most definitely located - every unit of it being within a radius of 15 miles, or little over 30 minutes steaming from every torpedo craft of the British Fleet. But instead of assigning a mission of search and attack to them, they are rounded up and given definite positions astern of the Fleet with the principal objective, as stated of keeping them together in

the best position to avoid their being mistaken for enemy vessels.

It is not sufficient excuse to state that the flotillas were scattered, as they actually were, one Leader having lost its own flotilla which it had been leading. Even allowing the first half or more of the night to assemble, which actually occurred, we find definite contacts being made with as many as four enemy battleships and apparently little thought given to getting the information out to the entire torpedo force. We are merely told of one instance of attempted reporting and that it was nullified by radio interference. The U. S. Atlantic Destroyer Flotilla some three years before the war carried out a more difficult search and attack problem against the Atlantic Battleship Force, the sole motive of which was to prevent concentration and attack by radio interference. In that Manuever the Fleet's course was prearranged, with no necessity for any inter-Fleet communication whatever. Even under such conditions methodical and practical means were found which permitted the steady flow of information, followed by a concentrated attack long before dawn of the majority of the destroyers engaged.

How forcibly the Battle of Jutland demonstrates the isolation of the tacticians brain when the fateful moment of his career arrives. And, further, that his own individual and quickly formed decision, decides for or against victory. Regardless of their skill, his subordinate commanders are in the enviable position of being able to bring about defeat, but not victory. Victory is reserved as his non-transferable prerogative.

BATTLE OF TRAFALGAR.

From the British viewpoint.

Forces engaged:- British - Nelson commanding, with 27 heavy and 7 light ships.
Allied, French and Spanish, Villeneuve commanding, with 35 heavy and 7 light ships.
 Wind, light from WNW to West.

Disposition:- When forces first came within sight as follows:-
British - to westward and windward of enemy about 15 mi., in three columns, line of bearing of squadron leaders about NW viz.-
 Northern, 7 light fast ships
 Central, Nelson with 11 heavy ships
 Southern, Collingwood with 15 heavy ships.

At seven a.m. leaders of each column in obedience to signal headed toward enemy - course about east.

Allied - In column heading about southeast until 7 a.m. then maneuvered to avoid concentration on rear, and came out in half moon formation with center concave to enemy general bearing. The seven light ships were just out of formation to leeward abreast rear center, and a separate squadron of heavy ships were left to leeward abreast gaps of main column.

Initial situation: As will be seen from the above the movements of the two forces, if continued, would have brought the British Fleet into action in succession from the southward. With each squadron "tied" by the Allied opposing forces.

The Battle:- With practically no interchange of signals and in accordance with a prearranged and mutually understood plan, the British Fleet defeated the Allied Fleet generally as follows:

Northern Squadron - of light ships maneuvered to threaten an attack on, and thereby engage the attention of, the enemy van, and dissuade it from going to support of the rear, which had been selected as the major point of attack.

Central Squadron - Stood directly for the enemy until just out of gun range, then headed to the northward paralleling the enemy line. This movement was apparently designed for the principal purpose of deception, leading the enemy to believe that the aim was to attack his entire line and thereby to dissuade him from any attempt at support of his rear or concentration on Collingwood to whom this portion of the enemy line was assigned for attack. This movement successfully misled the enemy in a quantity as to British intentions. It looked as if he was deliberately separating himself from his Southern Force and was aiming at a divided attack. It thereby succeeded in retaining the initiative in the

sense that it kept the enemy in doubt, and indecisive while the British squadrons were quite composed and confident because of the normal progress of a well and mutually understood plan.

When Nelson considered that Collingwood's progress to the southward of him was proceeding satisfactorily and that it was too late for the enemy to counter his plans he suddenly changed course to about east south east and drove straight ahead in column, colliding with the Allied line about six ships ahead of the portion under attack by Collingwood.

This is perhaps the only phase of the action in which Nelson has been severely criticised, in that he proceeded practically in column against an enemy "T" allowing the latter enfilade fire. The case against him is not a positive one, however, as there is some evidence to indicate that he meant his ships to be opened out in a line of bearing. It seems futile to attempt criticism of an action whose results were so unquestionably successful. The very boldness of his move, his deliberate violation of a well established, and by many so called fundamental principles may well have been responsible for his success.

Southern Squadron: Collingwood, in accordance with Plan, drove straight for that portion of the enemy's line previously assigned him, and after passing within gun range, formed his ships in a rough line of bearing to clear their individual fire and avoid the enemy "T". He attacked decisively the eleven rarer Allied ships with his own fifteen.

Nelson's Plan: To any one unfamiliar with the details of the action it is well to point out, after having briefly sketched the action, that the evidence clearly establishes the following salient points to have been contained in a previously prepared Plan of this classical example of tactics:

- (1) To force action.
- (2) Simple maneuvers.
- (3) Squadrons to have a definite and independent missions and to enjoy the maximum liberty and area of discretion in their accomplishment.

This is a dangerous doctrine if carried too far and the student must never lose sight of the fact that although there appeared to be wide independence of action between subordinate leaders, still their missions and their actions were carefully framed and executed in mutual support of each other and in furtherance of a higher but common mission. ~~Tactics were created in every sense of the word and, viewed as a whole, it carried out its mission as a well designed and constructed single machine, subject to the will, direction, and control, of a single operator -- a master tactician.~~

(4) The order of sailing was to be the order of battle. While successful under the circumstances of this battle, this is not a principle of unlimited application. It depends altogether upon the preliminary information available to the commander. Battle formations are not necessarily flexible. There are many others not at all suitable for battle which are nevertheless admirably adopted for the approach to battle position. Owing to the relative ease with which they permit the battle front be deployed or laid out as desired when all essential information has been received.

(5) No Captain can go far wrong who places his ships alongside that of the enemy.

A very dangerous doctrine and only applicable under certain circumstances. Justified perhaps in this action, as furthering Nelson's plan of confusing the enemy and thereby forcing his will upon them. If to be considered a principle of tactics at all, the user of it must write alongside of it in large letters that it is certainly not one which can be cited in justification of defeat.

(6) The Main Plan was to bring superior force to bear on inferior force - to defeat the enemy piecemeal. To overpower the Rear and Center before either could support each other or be supported by the Van.

This was to be accomplished in general by so maneuvering as to decide the enemy as to the major points of attack until it was too late to counter them.

Villeneuve was assigned the rear as the major point of attack and told to make about the twelve rear ships his mission and attempt to envelop and cut them off.

Nelson was to drive through the enemy's center, including the enemy flagship, but before so doing, was to maneuver to deceive and to "endeavor to take care that the mission of the second in command was not jeopardized".

The East or northern squadron was to threaten the enemy van and hold itself in readiness to reinforce either of the two main squadrons.

Conclusion: The outstanding feature of the Battle of Trafalgar which one is almost inclined to say renders it unique, in comparison to all subsequent as well as preceding battles, was the fact that it was consistently and courageously conducted on the British side in accordance with a previously well considered Plan which was understood by all concerned.

Many sea battles have of course been preceded by plans of a more or less complete nature in the minds of the leaders if not elsewhere, but it is difficult to cite a battle plan so thoroughly understood by all participants, and so admirably and consistently carried out, without confusion, even with practically no intercommu-

ication between the various forces other than of the type of execution signals.

The Battle, in this respect alone, may be and is, well taken by all Tacticians as a classic.

CONCLUSION.

In any conclusion as to the art and practice of Tactics one is inevitably led to what appears as a self evident statement, to the effect that it is a game of brains more than of tools or hands.

The repeated lessons of history in which inferior force and position has been so handled as to permit victory, in which superior force has been wasted through the short-sightedness of a leader, in which opportunity has been allowed to pass without recognition and appreciation, all, bring home the fact that battle is, in the ultimate analysis, a contest of will and character. Without brain force, material force is but a complicated combination of the elements and of little more use than so much scrap iron.

Victory certainly will never come to the Tactician who is daunted by the balance of material force or the combination of circumstances presented, and thereby prevented from calmly using all the forces at his command to their best advantage whether the fates seem marshalled in opposition or not.

The one guiding principle which the Tactician should keep before him throughout his career is that time worn adage of all authorities of seizing the initiative and keeping it, forcing one's own plan upon the enemy by sheer dominance of will power; keeping him in doubt, and constantly shifting his plan in attempts to counter your own moves. Aim at his morale. His composure of mind. Above all things look to one's own morale, the only safe insurance policy for which is respect for and confidence in the efficiency of one's own command by all concerned.

The foundation stone of morale is self confidence. With-

out it, the principles, doctrines, and weapons, of tactics are fantastic it not useless.

As certain as the rising of the sun is the fact that when the day of battle arrives, victory will be dependent upon the functioning of brains - perhaps of the single brain of the Tactical leader - rather upon the individual excellence of ships, guns or torpedoes.

(JVD/SBC/VHW 1 March 1920.)